The Monitor

The Newsletter of the ETV Advanced Monitoring Systems (AMS) Center

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All About Verification Tests - Current & Future

Determining the what, when, how, and where of conducting verification tests for air and water monitoring technologies has become a highly collaborative venture.

What to verify is determined by EPA/ETV's Advanced Monitoring Systems (AMS) Center, with suggestions and support from members of the AMS Center's air and water stakeholder committees and interest from vendor companies. Deciding when to conduct each test is a matter of prioritizing the technology needs, again with the assistance of the stakeholder committees.

Recommendations on how to conduct the tests come from participants at vendor meetings, where procedures for the verification test are discussed. Volunteers from the stakeholder committees attend the vendor meetings and then monitor the tests as they are scheduled. Scheduling decisions depend on the availability of the technology, vendors' interests in participating, local and regional environmental monitoring needs, and the availability of selected test sites.

The question of where to conduct the test depends primarily on the type of technology being verified and the test/QA plan. But stakeholders, as well as participating vendors help Battelle staff make the test site(s) decisions.

For example, the current test of a portable water analyzer was conducted at seven locations: in the Columbus, OH, area at a Battelle laboratory, two residences, two rivers, and a creek, and in the Atlantic Ocean, near Battelle's Duxbury, MA, laboratories.

Major funding for the tests is provided by EPA's ETV Program. Several groups have collaborated with the AMS Center by helping to conduct or co-fund the tests. The most recent example was the test of mercury continuous emission monitors in January, which was supported by EPA's National Risk Management Research Laboratory (NRMRL) in the Office of Research and Development at Research Triangle Park, NC, and the Massachusetts Department of Environmental Protection (DEP).

Following are the technologies currently being tested, along with contact information for each test coordinator. High priority technologies being considered for future testing are listed in the accompanying chart.

Optical open-path monitors. A fifth company–Spectrex, Cedar Grove, NJ–completed this test for two of its instruments in October. The verification reports

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Jeff Myers of Battelle discussed procedures for the verification test of multi-parameter water probes with interested vendors and two members of the AMS Center's water stakeholder committee.

The AMS Center is part of the U.S. Environmental Protection Agency's Environmental Technology Verification Program. ETV was established to accelerate the development and commercialization of improved environmental technologies through third-party verification testing and reporting of the technologies' performance. The ETV process provides purchasers and permitters with an independent assessment of the technology they are buying or permitting and facilitates multi-state acceptance. For further information, contact Helen Latham at Battelle, 505 King Ave., Columbus, Ohio 43201-2693; Phone 614-424-4062; Fax 614-424-5601; E-mail lathamh@battelle.org.

High Priority Technologies

The AMS Center has given high priority to identifying technologies for verification in the following air and water areas, with advice from its two stakeholder committees.

Air

- Instruments to monitor organic speciation of vapors in stacks (e.g., dioxins, benzene, phenol, and chlorinated hydrocarbons)
- Leak detectors ("sniffers") for fugitive emissions from valves and flanges
- On-board vehicle emission monitors
- Portable electrochemical SO_2 analyzers
- Continuous emission monitors (CEMs) for ammonia "slip"

Water

- Portable water analyzers or test kits to monitor for arsenic in drinking water
- Field-deployable multi-parameter water quality probes
- Rapid detectors of biological contaminants, such as cryptosporidian, E.coli, giardia
- Microbiological methods and sensors that detect chemical contaminants.

AMS Is Now a Center

At the end of the first five years of EPA's Environmental Technology Verification (ETV) Program's "pilot" period, Penelope Hansen, ETV director, announced that the program will continue with six ETV Technology Centers.

The ETV's Advanced Monitoring Systems pilot, managed by Battelle in partnership with EPA's National Exposure Research Laboratory, is now officially the ETV Advanced Monitoring Systems Center.

The other five centers are the Air Pollution Control Technology Center; the Greenhouse Gas Prevention Technology Center; the Drinking Water Treatment Systems Center; the Water Protection Technology Center; and the Pollution Prevention, Recycling, and Waste Treatment Systems Center.

Verified Technologies Increase to 113

Through December 31, the number of technologies verified under the ETV Program totaled 113. An additional 117 technologies were undergoing testing and 105 applications to participate in verification tests were pending.

Visit the AMS Center on the Web at http://www.epa.gov/etv/07/07_main.htm.

All About Tests

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are being drafted. Contact: Jeff Myers, 614-424-7705 or myersjd@battelle.org.

Ambient fine particulate monitors. The second phase of this test started in mid-December and was completed in January at an EPA SuperSite in Fresno, CA. Seven vendors with 13 monitors participated in Phase 2 and in the first phase, which was conducted last summer at the U.S. Department of Energy's National Energy Technology Laboratory in Pittsburgh, PA. Draft reports are being prepared and final reports are expected to be available by this summer. Contact Ken Cowen, 614-424-5547 or cowenk@battelle.org.

Turbidimeters. A fourth company–ABB, Lombard, IL–is to have an instrument tested in February at a municipal water plant in Columbus. Contact: Ken Cowen (see above).

Multi-parameter water probes. Representatives of seven companies attended a vendor meeting in January at Battelle's facilities in Columbus, OH, to provide input to the verification test/QA plan. The draft plan will be sent to those attending the meeting for review and comment. Four or five vendors are expected to participate in the test, which is to be held this summer. Contact: Jeff Myers (see above).

Mercury CEMs. Four instruments, submitted by three vendors, were tested in the first phase of the verification test of commercially available continuous emission monitors (CEMs) for mercury. The test was conducted in January at the Rotary Kiln Incinerator Simulator (RKIS), a pilot-scale combustion facility at the Environmental Research Center, a part of EPA's National Risk Management Research Laboratory (NRMRL) at Research Triangle Park, NC. A technology field day was held at the RKIS on January 12. Battelle will conduct Phase 2 of the verification test later this year at a full-scale facility, such as an operating incinerator or coal-fired power plant. Contact: Tom Kelly, 614-424-3495 or kellyt@battelle.org.

On-board vehicle emission monitors. A test/QA plan has been drafted for a verification test of on-board emission monitors in gasoline-powered vehicles. The test schedule is currently being planned. Contact Tom Kelly (see above).

Portable water analyzers. This technology is used to determine various contaminants in water. A verification test was conducted for the Nitrate Elimination Co., Inc.'s (NECI) portable field nitrate test kit (model F-NTK-01) in January and February at seven locations (see lead article). Contact Adam Abbgy, 614-424-5484 or abbgya@battelle.org.